

## CLAIMS:

We claim:

1. In a digital communications network, a method comprising:
  - monitoring a plurality of links to determine state changes of the links;
  - enforcing an IMA-ID check when an insufficient links state is reached;
  - relaxing the IMA-ID check when all the links are in an error state; and
  - re-enforcing an IMA-ID check when at least one link of the plurality of links recovers from an error state .
2. The method of claim 1, further comprising enforcing the IMA-ID check if a near end IMA-ID does not match a far end IMA-ID.
3. In a digital communications network, a method comprising:
  - restarting an existing IMA group, comprising
    - learning an IMA group ID of a far end IMA group;
    - making the IMA group ID persistent;
    - using only links matching the IMA group ID; and
    - placing non-matching links in an unusable state.
4. The method of claim 3, wherein learning an IMA group ID further comprises:
  - resynchronizing the IMA group; and

4 extracting the IMA group ID from a first connected link.

1 5. The method of claim 3, wherein making the IMA group ID persistent  
2 further comprises storing a new IMA group ID in memory.

1 6. The method of claim 3, wherein using only matching links further  
2 comprises screening IMA links having an IMA group ID that are involved in  
3 unintentional IMA group restarts for a matching stored IMA group ID.

4 7. The method of claim 3, further comprising looping back all links.

1 8. The method of claim 3, further comprising marking all links as unusable.

1 9. In a digital communications network, a system comprising:  
2 means for monitoring a plurality of links to determine state changes of the  
3 links;  
4 means for enforcing an IMA-ID check when an insufficient links state is  
5 reached;  
6 means for relaxing the IMA-ID check when all the links are in an error  
7 state; and  
8 means for re-enforcing an IMA-ID check when at least one link of the  
9 plurality of links recovers from an error state .

1 10. The system of claim 9, further comprising means for enforcing the IMA-ID  
2 check if a near end IMA-ID does not match a far end IMA-ID.

1 11. In a digital communications network, a system comprising:  
2 means for restarting an existing IMA group, comprising  
3 means for learning an IMA group ID of a far end IMA group;  
4 means for making the IMA group ID persistent;  
5 means for using only links matching the IMA group ID; and  
6 means for placing non-matching links in an unusable state.

1 12. The system of claim 11, wherein learning an IMA group ID further  
2 comprises:  
3 means for resynchronizing the IMA group; and  
4 means for extracting the IMA group ID from a first connected link.

1 13. The system of claim 11, wherein making the IMA group ID persistent  
2 further comprises storing a new IMA group ID in memory.

1 14. The system of claim 11, wherein using only matching links further  
2 comprises screening IMA links having an IMA group ID that are involved in  
3 unintentional IMA group restarts for a matching stored IMA group ID.

1 15. The system of claim 11, further comprising looping back all links.

1 16. The system of claim 11, further comprising marking all links as unusable.

1 17. A computer-readable medium having stored thereon a plurality of  
2 instructions, said plurality of instructions when executed by a computer, cause  
3 said computer to perform the method comprising:

4 monitoring a plurality of links to determine state changes of the links;  
5 enforcing an IMA-ID check when an insufficient links state is reached;  
6 relaxing the IMA-ID check when all the links are in an error state; and  
7 re-enforcing an IMA-ID check when at least one link of the plurality of links  
8 recovers from an error state .

1 18. The computer-readable medium of claim 17 having stored thereon  
2 additional instructions, said additional instructions when executed by a computer,  
3 cause said computer to further perform enforcing the IMA-ID check if a near end  
4 IMA-ID does not match a far end IMA-ID.

1 19. In a digital communications network, a method comprising:  
2 restarting an existing IMA group, comprising  
3 learning an IMA group ID of a far end IMA group;  
4 making the IMA group ID persistent;  
5 using only links matching the IMA group ID; and  
6 placing non-matching links in an unusable state.

1 20. The computer-readable medium of claim 19 having stored thereon  
2 additional instructions, said additional instructions when executed by a computer  
3 for learning an IMA group ID, cause said computer to further perform:  
4 resynchronizing the IMA group; and  
5 extracting the IMA group ID from a first connected link.

1 21. The computer-readable medium of claim 19 having stored thereon  
2 additional instructions, said additional instructions when executed by a computer  
3 for making the IMA group ID persistent, cause said computer to further perform  
4 storing a new IMA group ID in memory.

1 22. The computer-readable medium of claim 19 having stored thereon  
2 additional instructions, said additional instructions when executed by a computer  
3 for using only matching links, cause said computer to further perform screening  
4 IMA links having an IMA group ID that are involved in unintentional IMA group  
5 restarts for a matching stored IMA group ID.

1 23. The computer-readable medium of claim 19 having stored thereon  
2 additional instructions, said additional instructions when executed by a computer,  
3 cause said computer to further perform looping back all links.

1 24. The computer-readable medium of claim 19 having stored thereon  
2 additional instructions, said additional instructions when executed by a computer,  
3 cause said computer to further perform marking all links as unusable.

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2 25. A line card for use in a switch, comprising:  
3 a central processing unit (CPU);  
4 a system controller connected to the central processing unit;  
5 random access memory (RAM) connected to the system controller; and  
6 a group restarter connected to the CPU, controller, and RAM wherein the  
7 group restarter restarts an IMA group.

1 26. The switch of claim 25 wherein the processor monitors a plurality of links  
2 to determine state changes of the links and enforces an IMA-ID check when an  
3 insufficient links state is reached.

1 27. The switch of claim 26 wherein the processor relaxes the IMA-ID check  
2 when all the links are in an error state and re-enforces an IMA-ID check  
3 when at least one link of the plurality of links recovers from an error state.

1 28. The switch of claim 27, wherein the processor enforces the IMA-ID check  
2 if a near end IMA-ID does not match a far end IMA-ID.  
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